

616-036.22:303.6

Modified respondent driven sampling as a practical method for sampling of hidden “risk” networks

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Модифікована методика вибірки, що спрямовується респондентами, як практичний метод доступу до прихованих ризикових мереж

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BACKGROUND. Network epidemiology is a promising area of an epidemiological research that can facilitate understanding of an infection transmission within a population. An empirical base of the network epidemiology is developing. A theoretical background was established and tested on computer-simulated models. One of the most difficult tasks in moving to empirical field is developing a feasible method of gathering reliable information on network links. This is particularly challenging when those links represent sexual and drug use relationships within a hidden group of injecting drug users.

METHODS. Combination of a coupon referral system and a personal network

name-generator was used. All participants were asked to provide information about drug users with whom they communicated personally or their sexual partners during the last 30 days. This information was entered into the name-generator. Coupons were provided only for the current “risk” contacts, i.e. those injecting drug users with whom participants had sex or injected together. There was no limit to recruitment of “risk” contacts. All recruited and non-recruited but named “risk” contacts formed egocentric networks of the study participants. These egocentric networks were linked through referral chains into larger network clusters. Repeated referrals provided information for new links.

RESULTS. Most of the study participants named and recruited their “risk” contacts. At each of the 5 study sites not less than 300 injecting drug users were selected from name generators of their peers and recruited through coupon referral system.

CONCLUSIONS. Respondent driven sampling was modified to sample network links. Thus recruitment links in the current study are also the “risk” links through which infection can be transmitted when it is present in the network. These links form the “risk” network that can be studied by the network analysis methods.